Amendments to the Specification:

Please replace the paragraph beginning at page 1, line 26 with the following amended paragraph:

According to an aspect of the invention, a hybrid power supply includes an interface between a fuel cell system and a fuel cartridge or battery and a switching type DC/DC boost type converter coupled to the interface and which receives energy from a fuel cell or from an external battery connected to the interface, and which is arranged to deliver the energy to a rechargeable cell, the DC/DC converter configured to provide substantially constant current drain from the fuel cell.

Please replace the paragraph beginning at page 3, line 17 with the following amended paragraph:

Referring to FIG. 1, a portable powered, electronic device 12 (hereafter device 12) is shown. The device 12 includes a housing 11, having a compartment 14 to house an energy source (not shown) and a door 16 to enclose the compartment. The device 12 also includes an interconnect 20 disposed in the compartment 14 to interface either a battery source of power, e.g., primary or secondary, e.g., rechargeable batteries ~~16~~ or a fuel cartridge that supplies a source of fuel (a form of hydrogen) to a fuel cell (not shown). While the door 16 is shown pivoting along a side of the compartment that is perpendicular to the interconnect 20, in some embodiments it may be desirable to access the compartment from the side opposite the interconnect 20 to permit easy insertion of batteries and fuel cartridges.

Please replace the paragraph beginning at page 4, line 6 with the following amended paragraph:

Referring to FIG. 2A, interconnect 20 provides an interface between a fuel cell 22 and a fuel cartridge or battery (not shown). The ~~interface 20~~ interconnect 20 has appropriate mating fittings ~~32~~ (e.g., contacts spring-loaded battery terminal contacts 34a, 34b and interface port 32) to allow a fuel cartridge (not shown) to connect to the ~~interface 20~~ interconnect 20 and deliver

fuel to the fuel cell 22 disposed in the device 12. ~~The mating fitting 32 provides an ingress fuel interface port.~~ The interface port 32 can be a simple valve or merely an ingress port or other configuration enabling passage of a liquid or gas fuel and allow secure, leak-proof mating with a complementary port on a fuel cartridge. The ~~mating fitting~~ interface port 32 allows liquid or gas fuel to flow into the fuel cell 22, via an egress port 33 to enable operation of the fuel cell. The ~~interface 20~~ interconnect 20 also includes a pair of spring-loaded battery terminal contacts 34a, 34b disposed on a common surface of the interconnect 20 to allow for contact with battery terminals in a prismatic battery system. The fuel cell 22 receives fuel from the fuel cartridge that is connected to the interconnect 20. The fuel cell converts the fuel into electrical energy that is used to power electronic circuits 24 that provide the operational functionality for the device 12. The electronic circuits 24 can also be powered by a battery that is connected to the interconnect 20.

Please replace the paragraph beginning at page 5, line 4 with the following amended paragraph:

Referring to FIG. 3, a fuel cartridge 38 and a prismatic battery 40 are shown. The fuel cartridge 38 has a fuel delivery interface, complementary to the ~~interface 20~~ interconnect 20 (FIG. 2), including an egress port 42, as shown. The prismatic primary or secondary battery 40 has a pair of battery terminals 44 (contact receptacles) on the same side of the prismatic package, as also shown.

Please replace the paragraph beginning at page 5, line 4 with the following amended paragraph:

In addition, the battery can include a void to accept the ingress port on the ~~interface 20~~ interconnect 20 (FIG. 2) and the fuel cartridge can have a pair of battery terminals 44 (contact receptacles) on the same side of the prismatic package, as also shown. The pair of battery terminals 44 (contact receptacles) on the prismatic package are not electrically active, and in some embodiments can be short circuited to be used with an appropriate circuit to indicate that a

fuel cartridge has been connected to the interconnect 20. The arrangements shown in FIG. 3 enable the ~~interface 20~~ interconnect 20 to receive either the fuel cell cartridge 38 or battery 40 so that both the fuel cartridge's fuel delivery valve mechanism, and the battery's terminals mate with their corresponding interconnect

Please replace the paragraph beginning at page 7, line 14 with the following amended paragraph:

The circuits of FIGS. 5 or 6 could be incorporated within the ~~interface 20~~ interconnect 20 or the portable device 12, which uses portable fuel cells. The specifics will be determined by the application, the size of the device and the volume available for the power source. However, it is possible that optimum implementations could involve multiple prismatic batteries or battery cases inserted in place of a larger volume fuel cartridge, or a cylindrical battery or batteries. The specific circuitry will also be determined by the application, and by the fuel cell system's voltage output vs. that of the battery replacements.

Please replace the paragraph beginning at page 7, line 21 with the following amended paragraph:

Referring to FIG. 7, a circuit 130 to control the operation of the step-up (boost) DC/DC converter 59 to provide optimal operation for the fuel cell is shown. The circuit 130 includes bias and control circuits 132 for the DC-DC converter 59, a primary current sense amplifier and a power shutdown 134 and a charge cutoff switch 136. In addition, fuse protection 138 is supplied. The circuit 130 is configured to draw a constant amount of current from the fuel cell such that the fuel cell can operate at its optimum operating point. In operation, the fuel cell delivers a constant current to the DC/DC converter 59. The DC/DC converter 59 delivers voltage to the rechargeable cell, which is either used to recharge the cell or ~~delivery~~ delivers power to the load device.

Please replace the paragraph beginning at page 10, line 9 with the following amended paragraph:

There are several parameters to optimize when designing a hybrid power system. For example, the energy of the fuel cell 12 is optimized to cover the desired total runtime of the device. The energy of the rechargeable battery ~~16~~ is optimized to cover the desired continuous runtime of the device for 1 cycle. The power of the rechargeable cell is selected to be adequate for the device peak power and the charge rate is optimized to allow nearly full fuel cell use to satisfy a desired intermittent performance of the device.

Please replace the paragraph beginning at page 13, line 2 with the following amended paragraph:

The Li- ion battery ~~16~~ has a fuse circuit 168 with fuse (F1) in series with both the charge path and the output, used for safety, to permanently open in case of a short-circuit condition.

Please replace the paragraph beginning at page 13, line 10 with the following amended paragraph:

Referring now to FIG. 9, a portable electronic device ~~170~~ 70 that includes a hybrid power supply ~~171~~ 70 (as for instance in FIGS. 5-8) is shown. The hybrid power supply ~~171~~ 70 includes a switching type DC/DC boost type converter ~~174~~ 74 that receives energy from a primary cell ~~172~~ 72 and delivers the energy to a secondary, e.g., rechargeable cell ~~176~~ 76. In one embodiment the primary cell ~~172~~ 72 is a fuel cell and has a fuel cartridge (not shown) that supplies a source of fuel (a form of hydrogen) to the fuel cell ~~172~~ 72.

Please replace the paragraph beginning at page 13, line 14 with the following amended paragraph:

The rechargeable cell ~~176~~ 76 delivers power, as needed, to the device ~~178~~ 78. The device ~~178~~ 78 can be any type of electronic device, especially a portable device such as a wireless device, e.g., a cell phone, personal digital assistant, digital camera, and so forth. The switching

type DC/DC boost type converter ~~172~~ 72 is configured to provide a fixed output voltage that is less than the charging voltage of the rechargeable cell ~~176~~ 76, and is current limited to a portion of the charging current of the rechargeable cell. In this configuration, the switching type DC/DC boost type converter ~~172~~ 72 acts also as a charger for the rechargeable cell ~~176~~ 76. The rechargeable cell ~~176~~ 76 can be a rechargeable Li-Ion type. Preferred examples include a Li-Ion or Li-Polymer rechargeable cell. These rechargeable cells can provide power to a device ~~178~~ 78 for relatively long periods of time compared to other potential rechargeable cells, and can be effective over long periods of continuous use.

Please replace the paragraph beginning at page 13, line 27 with the following amended paragraph:

Primary power sources ~~172~~ 72 may include, but are not limited to alkaline, zinc-air, and fuel cells. In this arrangement the primary sources are used as backup for when a fuel cartridge is not available. Another embodiment includes an AC adapter ~~180~~ 80 that connects to the interconnect 20.

Please replace the paragraph beginning at page 13, line 30 with the following amended paragraph:

The external AC/DC adapter arrangement ~~180~~ 80 can plug into an AC outlet or can plug into a car cigarette lighter. As shown, the adapter ~~180~~ 80 includes a plug ~~182~~ 82 connected to an integrated interconnect/charger adapter ~~184~~ 84 via a pair of wires ~~183~~ 83. Integrated interconnect/charger adapter ~~184~~ 84 connects directly to the interconnect 20 and includes battery terminals ~~181a, 181b~~ 81a, 81c to connect to terminals 34a, 34b and an aperture ~~181c~~ 81b that receives the end of the ingress port 32 of the interconnect 20. Integrated interconnect/charger adapter ~~184~~ 84 also includes necessary electronics (not shown) that converts AC voltage to a proper rated output DC voltage at terminals ~~91a, 91b~~ 81a, 81c and thus delivers DC power to the external battery terminals 34a, 34b of the interconnect 20. This power is used to charge the rechargeable battery of the hybrid system embedded in the device 78.

Please replace the paragraph beginning at page 14, line 9 with the following amended paragraph:

Referring to FIG. 10, the adapter electronics can be incorporated into a separate unit ~~184'~~ 84', as illustrated that is connected to the plug ~~182~~ 82 via a pair of wires ~~183~~ 83 and which delivers the power over a second pair of wires ~~187~~ 87 that are connected to a device adapter ~~186~~ 86. Device adapter ~~186~~ 86 is connected to the interfaces 20, as shown. This arrangement may be preferred where heat generated by the adapter ~~184~~ 84 (FIG. 9) would be undesirable in the device or if space constraints don't permit the inclusion of the integrated adapter/converter ~~184~~ 84 (FIG. 9), thus separating the functions of adapting to the interconnect 20 using adapter ~~186~~ 86 and converting voltages to the unit ~~186'~~ 84'.

Please replace the paragraph beginning at page 14, line 17 with the following amended paragraph:

Also the plug and the adapter ~~184 or 184'~~ 84 or 84' can be configured and designed to convert DC power to a proper output DC power level. Alternatively, in some DC arrangements no conversion to a lower or higher voltage is needed since the arrangements of FIGS.5-8 could be used. In this way, when an AC or car battery power is available, the cost of a fuel cartridge or batteries could be saved. The external adapter does not need to provide the maximum device power, just low-rate charging power similar to the external battery.